

PROJECT BRIEF FOR 'SIGNAL FLARES AND ANTI SONAR DECOY'

1. **Brief Description/ Technical Details.** The Star Flare & Smoke Flare are used to communicate signals to friendly surface ships, aircraft and submarine at periscope depth for indicating current position, transmitting a brief agreed-upon code and the decoy is for underwater countermeasure to decoy active sonars. These are of following types:-

(a) **Star Signal Device/Star Flare.** This device is meant to emit high visibility coloured red and green star signal in the air during day and night. This star signal remains in air for a short duration.

(b) **Coloured Smoke Device/Smoke Flare.** This device is meant to emit red or green coloured smoke signal during the day.

(c) **Anti Sonar Decoy.** This underwater countermeasure is to decoy active sonars (surface ships, submarines and torpedoes etc) by generating false echoes. The principle of operation is that the decoy initiates underwater and releases a particular chemical composition. This composition when decomposes produces gas bubbles which act as a false target.

2. The basic requirement of the signal devices and decoy are as follows:-

	Star Signal Device	Coloured Smoke Device	Anti-Sonar Device
Type of signal	High visibility coloured star signal (percentage of color saturation $\geq 30\%$)	Coloured smoke signal	Underwater countermeasure to decoy active sonars (anti-sonar false echoes)
Colour	Red or Green	Red or Green	NA
Delay before implementation of the signal	10 seconds after ignition	7 seconds after ignition	7 seconds after ejection
Duration of the signal	10 to 15 seconds	90 seconds	Will be shared in the PSO, prior development
Altitude	30 to 50 meters	Sea level	Underwater
Visibility	~ 1000 meters	~ 1000 meters	NA
Use	Day and night use	Day use	NA
Type of initiation	Hydrostatic	Hydrostatic	Pneumatic
Shelf Life	At least 10 years		

3. **Tentative Quantity.** The tentative deliverable quantities for procurement under Buy(Indian-IDDM), post successful development is as follows:-

<u>Type</u>	<u>Quantity for five years</u>	
Star Signal Device	Green - 117	Red - 17
Coloured Smoke Device	Green - 150	Red - 22
Anti Sonar Decoy	89	

4. **Tentative Timeline for Development.** Within 7 months.